ABSTRACT

Background

There are lack of studies on variation of central corneal thickness (CCT) with acute changes in blood sugars in diabetic individuals. We did a study to assess change in CCT with change in blood sugar levels from hyperglycemic state to euglycemic state over a period of 1 month duration in the same individual.

Methods

89 eyes of diabetic individuals who were hyperglycemic and achieved euglycemia over a period of 1 month were included in the study. Post prandial blood sugars (PPBS) and CCT were taken in hyperglycemic state and then repeated the same at 1 month review if they achieved euglycemia. The primary outcome was central corneal thickness in hyperglycemic state and euglycemic state in the same subjects.

Results

The mean CCT of the eighty nine patients in hyperglycemic state was 501.38 ± 25.28 microns and 502.20 ± 25.05 microns in the euglycemic state

There was no significant difference in the central corneal thickness in hyperglycemic state in comparison to euglycemic state ($p=0.167$)

We also found that there was no significant change in CCT with the amount of blood sugar reduction and duration of diabetes.

Conclusion

There was no difference in CCT in diabetics in hyperglycemic and euglycemic state achieved at 1 month.There was no correlation between change in blood sugar and change in CCT. Short term fluctuations (1 month) in blood sugars did not cause any change in CCT in diabetics .

Keywords

CCT- Central Corneal Thickness, PPBS-Post Prandial Blood sugars, IOP-Intra Ocular Pressure